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SURVEY OF THE NAVY'S THREE-TIERED REMEDIAL WEIGHT-MANAGEMENT PROGRAM

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L. K. Trent

L. T. Stevens

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NAVAL HEALTH RESEARCH CENTER
P.O. BOX 85122
SAN DIEGO, CALIFORNIA 92186-5122

NAVAL MEDICAL RESEARCH AND DEVELOPMENT COMMAND
BETHESDA, MARYLAND

SURVEY OF THE NAVY'S THREE-TIERED REMEDIAL WEIGHT-MANAGEMENT PROGRAM

Linda K. Trent, M.A.
Linda T. Stevens, M.A.

Health Sciences and Epidemiology Research Department
Naval Health Research Center
P.O. Box 85122
San Diego, CA 92186-5122

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EXECUTIVE SUMMARY

Problem

About 10% of Navy personnel are either overfat or obese. Given the importance of maintaining a fit and healthy fighting force and the serious career consequences for failing to meet fitness and body composition standards, the Navy has developed a three-tiered remedial weight-management plan to assist overfat and obese personnel in meeting the designated standards. However, at present, the Navy's weight control programs are largely unstandardized; there is wide diversity in available resources, referral patterns, and approaches to obesity treatment in the Navy.

Objective

The purpose of this study was to gain descriptive information about the number, size, character, administration, time distribution, and problems of the Level I, II, and III obesity treatment programs developed by the Navy.

Approach

Questionnaires were mailed to a stratified random sample of Level I (command-directed) programs, and to all Level II and III commands (Counseling and Assistance Centers and Alcohol Rehabilitation Centers/Departments). The surveys addressed enrollment policies and procedures, program demography, program elements, and program management. Descriptive statistics were performed separately for Level I, II, and III commands, whose final response rates were 70%, 79%, and 83%, respectively.

Results

Although Level I programs targeted Physical Readiness Test (PRT) failures as well as overeaters, 63% of Level I enrollees were overfat or obese, and about 6% of those were referred to a Level II or III program. Only 32% of the Level II facilities offered weight-management programs, often because of lack of funding or staffing. Mean enrollment was about 10-15 participants per treatment group at all three levels. Level I programs relied primarily on group exercise to address the problem of obesity; most of the Level II and III programs were modeled after Overeaters Anonymous and consequently were more diversified, with substantial amounts of the time devoted to group discussion, behavior modification techniques, and nutrition education. Follow-up evaluations were conducted at 50% of Level I, 91% of Level II, and 100% of Level III programs.

Conclusions

Lack of funding or staffing prevented many Level II facilities from conducting a weight-management program, leaving basically two options for obese individuals seeking help with their problem: remedial conditioning exercise routines at Level I, or six weeks of inpatient therapy at Level III. Further research might explore the potential of Level II programs to provide a cost-effective middle ground for treating overfat and obese Navy personnel.

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INTRODUCTION

Considerable evidence establishes obesity as an independent risk factor for the development of a number of chronic diseases, including atherosclerosis, premature myocardial infarction, hypertension, diabetes mellitus, cholecystitis, gout, and certain cancers (Bouchard, Shephard, Stephens, Sutton, & McPherson, 1990; National Research Council, 1989). Obesity is also generally associated with physical inactivity and decreased physical fitness, particularly suboptimal cardiorespiratory endurance (Bray, 1989; Gortmaker, Dietz, & Cheung, 1990; Pavlou, Steffee, Lerman, & Burrows, 1985). Although it is the goal of the Chief of Naval Operations that 100% of Navy members meet the Navy's Physical Readiness Test (PRT) and body composition standards, about 10% of Navy personnel are either overfat or obese according to the following criteria (Conway, Trent, & Conway, 1989):

Navy's Percent Body Fat Cutpoints

	Acceptable	Overfat	Obese
Men	< 23%	23% - 25%	26% and higher
Women	< 31%	31% - 35%	36% and higher

Navy policy concerning members who exceed percent body fat standards is clear: such personnel are subject to specific administrative actions, ranging from ineligibility for promotion to possible separation from the service (Department of the Navy, 1990). In particular, members diagnosed as obese (vs. overfat) are not permitted to take the required PRT test, thereby initiating a chain of conditional administrative procedures that lead either to rehabilitation or to separation at the convenience of the government. Given both the importance of maintaining a fit and healthy fighting force and the serious career consequences for failing to meet fitness and body composition standards, the Navy has developed a three-tiered remedial weight-management plan

to assist overfat and obese personnel in meeting the designated standards. Individuals are referred to mandatory conditioning/rehabilitation programs according to guidelines set forth in OPNAVINST 6110.1D (Department of the Navy, 1990). They are sent to either Level I, Level II, or Level III treatment programs based on the severity of their weight condition.

Level I is the basic command-directed remedial conditioning program for all personnel who either exceed body fat standards or fail the PRT. Individuals who have been identified as overfat or obese and who have been unable to meet required standards within the Level I program may be recommended by a medical officer to participate in a more intensive Level II program, which is a non-residential weight-loss intervention conducted under the auspices of a Counseling and Assistance Center (CAAC). Medically diagnosed obese individuals who meet time-in-service and career level criteria may be referred to a Level III residential obesity rehabilitation program at either a free-standing Alcohol Rehabilitation Center (ARC) or (if available) a hospital-based Alcohol Rehabilitation Department (ARD).

At present, the various weight-control programs are largely unstandardized and rely heavily on the creativity and dedication of program managers, most of whom fulfill their roles either as a collateral duty or as one of many other counseling and management duties required of them. Because of the wide diversity in available resources, referral patterns, and approaches to weight-control/ obesity treatment, a survey was undertaken to help determine how individual commands and facilities are implementing the directive for remedial weight-control programs. This report presents the results of that survey.

METHOD

Survey Questionnaires

Informal interviews were conducted with several remedial weight-management program directors to help determine the types of questions that would be applicable and useful in a written survey. These discussions, along with written guidelines that were obtained for various programs, suggested that while the more specialized Level II and III programs share a number of structural and procedural characteristics, they differ in many ways from Level I (command-directed) programs. Therefore, two different survey questionnaires were developed: one for command-directed programs, and one for the CAACs, ARCs, and ARDs.

Although specific items differed between the two surveys, the same broad topical areas were addressed in both: enrollment policies and procedures (e.g., separate groups for men and women), program demography (e.g., program length, number of meetings per week), program elements (e.g., group discussion, group exercise, nutrition education), and program management (e.g., attendance records). The questions were either open-ended or forced choice. Most of the open-ended items requested that the respondent fill in a number or a percent; a few requested brief descriptions or explanations. The forced-choice items used either a "yes-no" format or asked the respondent to "circle all (options) that apply". The questionnaires are presented in Appendices A and B.

Sample

Level I. A stratified random sample of all Navy commands was selected using computerized personnel tapes maintained by the Bureau of Naval Personnel. Commands were defined by unique Unit Identification Codes (UICs). Facilities offering Level II or Level III programs (i.e., CAACs, ARDs, and ARCs) were eliminated from this pool prior to sampling. All commands having 500 or more personnel attached to them were included; very small commands with less than 10 personnel were excluded; and a 20% random sample was drawn from the remaining commands having between 10 and 499 members. This procedure resulted in a sample of 925 commands (153 commands with 500 or more members, and 772 commands with between 10 and 499 members). Of these, 161 were sea commands (surface ships, aircraft carriers, submarines).

Levels II and III: Using a 1990 Navy directory of all CAACs, ARCs, and ARDs, all listed facilities were targeted for the survey. This included 87 Level II facilities (CAACs) and 23 Level III facilities (4 ARCs and 19 ARDs). Twenty-four of the CAACs were ship-based; all ARCs and ARDs were shore-based.

Procedure

Surveys were mailed (along with pre-addressed return envelopes) to the targeted commands and facilities in March 1990. The packets included a letter from the research command explaining the purpose of the survey and requesting that it be returned by the end of April. In May, follow-up telephone calls were made to the Command Fitness Coordinators at all CAACs, ARCs, and ARDs within the continental United States from whom surveys had not yet been

received. Because of the large number of individual commands sampled, no follow-up contact was attempted with nonresponding Level I commands.

Response Rate

Fifteen of the Level I surveys were unable to be delivered, due either to an incorrect address or to the targeted command having become nonfunctional (closed or decommissioned). A total of 646 Level I questionaires were completed and returned, though 14 of these were received too late to be included in the analyses. Sixty-eight of the CAACs, 15 of the ARDs, and all four ARCs returned surveys within the requested time frame. Thus, the final response rate was 70% of Level I commands, 79% of Level II, and 83% of Level III, for an overall return rate of approximately 72%.

RESULTS

Analyses of these programs were mainly descriptive in nature, to provide information on the number, size, character, administration, time distribution, and problems of the Level I, II, and III obesity treatment programs. Seventy-nine percent (n = 501) of the individual commands conducted Level I remedial conditioning programs for PRT failures and overfat/obese members; those lacking programs indicated either that there were no remedial candidates at their command at the time of the survey or that they referred such individuals to a program conducted by another UIC. Only 32% (n = 22) of the responding CAACs conducted weight-management programs; many said that lack of funding or personnel prevented them from offering such programs. All four ARCs but only one of the fifteen ARD's conducted residential obesity treatment programs. (One ARC offered both an inpatient and an outpatient Level III program, but only the inpatient program was included in the analyses).

The remaining analyses were based only on those commands and rehabilitation centers that offered remedial weight-management programs. Results are presented separately for Levels I, II, and III and are further divided within each level by topical category. The "Enrollment Policies and Procedures" category deals with general questions concerning the population being served; the "Program Characteristics" section addresses descriptive program demography, such as size and running length; "Program Elements" focuses on the content, approaches, or types of activities employed in the actual treatment protocol; and "Program Management" concerns basic administrative policies for conducting the program.

Level I: Command-directed Programs

Enrollment policies and procedures. Table 1 summarizes the responses to questions concerning Level I program enrollment. Most command-level programs are not tailored to the specific needs of overfat/obese personnel; instead, a single, generic remedial conditioning program serves "overeaters" and PRT failures alike. Almost all commands make enrollment mandatory for members who fail to meet percent body fat standards, regardless of their rank; however, enlisted personnel are somewhat more likely to be required to attend than are officers. Only a few programs offer separate groups for officers and enlisted personnel (8%), or for men and women (3%). The majority of programs are open to anyone desiring to participate, and commands rely primarily on Plan of the Day notices, morning muster, and word of mouth to publicize the program.

Table 1

LEVEL I: Description of program enrollment policies*

Item	% Responding "Yes"
Is the program for overfat individuals the same as for PRT failures?	80
Is the program mandatory for:	
overfat enlisted	96
overfat officers	92
obese enlisted	99
obese officers	96
Are separate groups conducted for:	
men & women	3
enlisted & officer	8
overfat & PRT failures	7
Is enrollment open to other than overfat and/or PRT failures?	79
How do you let people know about the program?	
plan of the day	66
word of mouth	29
quarters	12
indoctrination	12
announcements at meetings	11
memos & flyers	11
GMT	9

* n ranged from 350 - 496 commands across items

Program characteristics. Descriptive statistics concerning program size, meeting times, group composition, etc., are presented in Table 2. As expected, program size varied greatly across commands, ranging from $\underline{n} = 1$ to $\underline{n} = 325$; mean enrollment was about 26 participants. Groups typically met four times per week for 45-60 minutes per session, regardless of the number of enrollees. Most commands (83.5%) conducted a 5-, 6-, or 7-month program--equivalent to the time between official PRT tests. Although Level I programs are intended for PRT failures as well as overeaters, almost 63% of enrollees were overfat or obese. About 6% of Level I overeaters were referred to a Level II or III program.

Unit Identification Codes (UICs) were used to identify sea and shore commands. Analyses indicated that sea commands had larger average enrollment than did shore-based commands (approximately 37 vs. 25 participants) and conducted fewer sessions per week (3-4 vs. 4-5). While the proportion of program enrollees who were overfat or obese was significantly greater in sea commands (70% sea vs. 61% shore-based, $\underline{p}<.01$), the percentage of overweight participants who were referred to Level II or Level III weight-management programs was about the same for sea and shore commands (5% and 6%, respectively).

Table 2

LEVEL I: Means and standard deviations of program characteristics*

	Mean	SD	Range
Total number usually enrolled in remedial program	25.8	37.2	1-325
Number of concurrent groups in the program	2.0	1.7	1-19
Enrollees per group	14.6	21.3	1-285
Sessions per week	3.9	2.3	1-25
Minutes per session	52.4	16.9	1-120
Length of complete remedial program (in months)	5.6	1.2	1-9
Percent of program enrollees who are overfat/obese	62.7	34.6	0-100.0
Percent of overfat/obese members who are referred to a Level II or Level III program	6.1	8.8	0-48

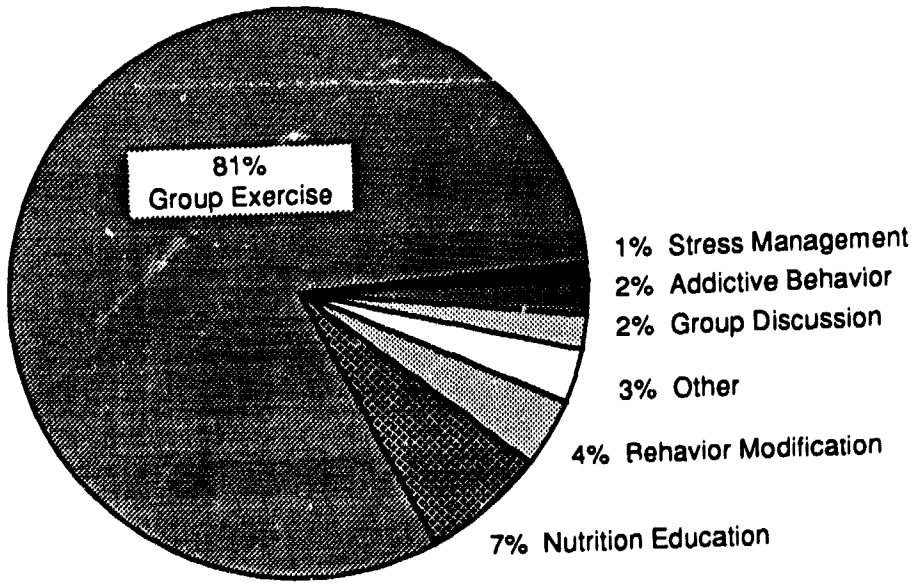
* $\underline{n}$ ranged from 319-489 commands across items

Program elements. The proportion of time allotted to various program elements is presented in Figure 1. At the command level, remedial conditioning techniques relied predominantly on group exercise, with approximately 80% of program time being devoted to physical activity. Remaining time was divided among several secondary elements, the largest of which was nutrition education (6.5% of program time). Only 10% of the programs were modeled after some other well-known weight-reduction program. Of those that were, most either used the program suggested in the Navy Nutrition and Weight Control Guide (Weber, 1989) or followed the Overeaters Anonymous 12-step program.

Written comments on some of the questionnaires suggested that smaller commands were more likely than larger ones to individualize their programs and allow participants to exercise on their own schedule rather than in an organized group. An analysis of variance was conducted to identify any significant differences in exercise schedule. Percent of program time devoted to group exercise was compared across four remedial group sizes: small (10 or fewer participants), medium (11-20), large (21-50), and very large (more than 50). The recorded time spent on group exercise was not significantly different among the four group sizes.

Figure 1

*LEVEL I: Breakdown of time management**



* n ranged from 396-400 commands across items

Program management. Only 48% of the programs were conducted during work hours; all others required members to attend on their own time. Attendance was taken at 88% of the programs, and absences were usually dealt with by counseling the member or reporting up the chain of command. Make-up sessions were an option in only 7% of the programs.

Table 3 lists a variety of physical, psychological, and behavioral measures that were taken at either the beginning, the end, or at follow-up in the Level I programs. As shown in the table, the majority of programs initially measured percent body fat, height, weight, blood pressure, and physical readiness test (PRT) scores. Roughly 20% obtained self-reported psychological or behavioral measures, such as self-esteem, eating habits, and exercise habits. Although 37% measured blood pressure, laboratory blood data was seldom captured in the Level I programs. Measurements taken at the end of the programs resembled the initial pattern of measurement; focusing primarily on height, weight, percent body fat, and PRT scores.

Follow-up was performed at 50% of the commands, usually by either personal contact (41%) or PRT record (55%). As in the program itself, percent body fat, weight, and PRT scores were the most commonly requested measures at follow-up.

Table 3

LEVEL I: Percent of programs conducting measurements at the beginning, end, or following the remedial program*

Item	% Responding "Yes"		
	Beginning	End	Follow-up
Height	86	34	19
Weight	68	55	33
Percent body fat	70	61	43
Blood pressure	37	8	3
Blood sugar	25	3	2
Blood lipids	25	4	2
Psychological measures	16	8	4
Behavioral measures	27	13	12
PRT scores	61	56	25

* n = 501 commands

Level II: Counseling and Assistance Centers (CAACs)

Enrollment policies and procedures. When a member is referred to a CAAC program, a counselor at the CAAC conducts a clinical screening to determine whether Level II or Level III treatment is appropriate for the individual involved, and, if so, whether the member qualifies for enrollment in terms of type of problem, length of service, recommendation of commanding officer, and program availability. Although the Level II programs are nonresidential, enrollees are generally issued TAD orders ("temporary additional duty") and attend the program sessions in lieu of their regular duties. In the present survey, 71% of the CAACs reported that members attended in a TAD status. All of the programs were conducted as closed groups--that is, participants entered the program as a class, met together regularly for the duration of the program, and completed treatment at the same time. None of the CAACs reported separating men and women in their counseling groups.

Program characteristics. Table 4 presents program characteristics for Level II. The programs varied widely in their operational procedures. Some conducted as many as 15 sessions per week, others as few as two. Some sessions lasted less than two hours, others ran all day. Program length ranged from 2 weeks to 8 weeks; availability ranged from twice a year to ten times a year. Although all of the programs were conducted as coherent classes ("closed" versus "open" groups), 68% offered individual counseling sessions as well. By regulation, program enrollees were either overfat or obese; survey results indicated that approximately 45% were in the obese category. About 32% of the CAACs allowed individuals to repeat or extend their time in the program. Two-thirds of the programs maintained waiting lists for prospective weight-management enrollees.

Table 4

*LEVEL II: Means and standard deviations of program characteristics**

Item	Mean	SD	Range
Enrollees per group	9.7	3.2	3-18
Sessions per week	4.9	2.4	2-15
Minutes per session	284.0	137.0	90-480
Groups per year	4.7	2.0	2-10
Percent providing individual counseling sessions	68.0	----	----
Sessions per week of individual counseling	2.2	2.7	1-11
Minutes per session	32.5	25.7	8-105
Percent of programs with waiting list	67.0	----	----
Typical number of people on waiting list	5.4	2.6	2-10
Typical length of time on waiting list (in weeks)	7.7	3.5	4-14
Number of classes conducted concurrently	1.7	2.4	1-9
Length of time to complete the program (in weeks)	3.6	1.4	2-8
Percent of enrollees who are obese	45.0	26.0	2%-95%
Percent of programs which permit individuals to extend/repeat the program	32.0	----	----
Percent of programs which include family members in the program	18.0	----	----

* n ranged from 13-22 commands across items

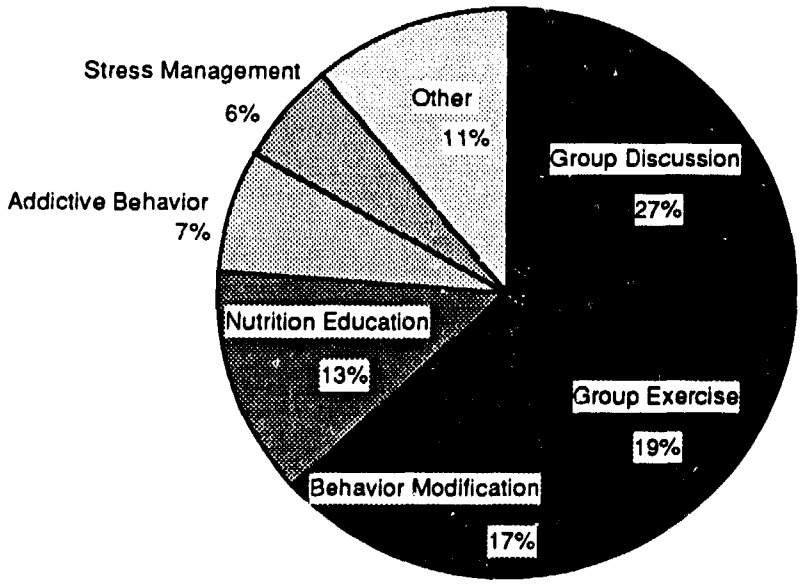
Program elements. Figure 2 depicts the mean percent of time spent on various therapy elements in the CAAC weight-control programs. It is readily apparent from the figure that Level II program time was divided more equally among several different course elements, including behavior modification techniques, nutrition education, and stress management, than was the case for the Level I remedial programs. The largest proportion of time (about 27%) was devoted to group discussion, with group exercise allotted about 20%. Nearly 70% of the CAAC weight-control programs were modeled after some other well-known program, usually Overeaters Anonymous.

Program management. Table 5 lists the various measurements taken at either the beginning, the end, or at follow-up in the Level II programs. As in the command-directed programs, height, weight, and percent body fat were initially measured in over 80% of CAACs, though only about one-third of the programs initially recorded PRT scores. Behavioral and psychological measures were obtained in about half of the programs at the beginning. Only a few of the CAACs measured blood pressure, blood glucose, or blood lipids. Although the percentages are less, the measurements taken at the end of the programs follow a similar pattern as those taken initially.

Nearly all of the CAACs (91%) performed follow-up evaluations of their participants, usually at either 3 months or 6 months; only 5% conducted follow-up at one year. Although questionnaires were the most prevalent vehicle for follow-up (used by 60% of the CAACs), clinic appointments and group meetings were also used by a number of programs. Percent body fat was measured at follow-up by about 55% of the programs, PRT scores were recorded by 32%, and behavioral measures were obtained by 18%.

Figure 2

LEVEL II: Breakdown of time management*



* n ranged from 13-16 CAACs across items

Table 5

LEVEL II: Percent of programs conducting measurements at the beginning, end, or following the remedial program*

Item	% Responding "Yes" Beginning	End	Follow-up
Height	91	55	36
Weight	82	68	41
Percent body fat	86	77	55
Blood pressure	23	5	0
Blood sugar	14	0	0
Blood lipids	14	0	5
Psychological measures	46	32	18
Behavioral measures	50	27	9
PRT scores	36	23	32

* n = 22 CAACs

Level III: Alcohol Rehabilitation Centers/Departments (ARCs/ARDs)

Enrollment policies and procedures. Members meeting all of the following criteria were eligible for enrollment in a Level III residential obesity treatment program: (a) medically diagnosed obese, (b) no previous Level III treatment for obesity, (c) E-5 or above, (d) at least one year of active duty service remaining, (e) at least six months participation in a command-directed remedial physical conditioning program, and (f) recommended by the commanding officer. Enrollees attended residential programs on TAD orders. Level III groups were all open-ended--that is, new members would continually join an ongoing group as senior members completed treatment and left. Therapy groups were therefore heterogenous in representing patients at all stages of treatment. Two of the ARCs conducted separate groups for men and women at least part of the time.

Program characteristics. Table 6 summarizes the program characteristics for the four ARCs and one ARD conducting residential obesity treatment programs. By regulation, 100% of the enrollees were obese. Standard length of stay at all facilities was six weeks, though patients who required additional time in treatment typically were extended as medically indicated. Table 6 shows an average of 6.2 sessions per week, usually lasting for less than 1-1/2 hours per session.

While this seems to leave many hours unaccounted for, given that Level III is a residential (24-hour) program, Level III patients in fact spend considerable time attending lectures, watching films, writing journal exercises, and doing required reading in preparation for the formal group sessions. All of the ARCs maintained an enrollment waiting list; the ARD did so on a variable, as-needed basis. Unlike Level II, the majority of Level III programs included family members in some aspect of their treatment curriculum.

Table 6

LEVEL III: Means and standard deviations of program characteristics*

Item	Mean	SD	Range
Enrollees per group	12.6	5.1	8-20
Sessions per week	6.2	2.3	3-9
Minutes per session	76.8	35.4	14-100
Groups per year	37.0	21.2	52-74
Percent providing individual counseling sessions	100.0	----	----
Sessions per week of individual counseling	1.7	.6	1-2
Minutes per session	36.8	17.0	20-60
Percent of programs with waiting list	75.0	----	----
Typical number of people on waiting list	25.3	8.5	16-33
Typical length of time on waiting list (in weeks)	5.8	4.2	3-12
Number of classes conducted concurrently	3.4	2.4	0-6
Length of time to complete the program (in weeks)	6.0	----	----
Percent of enrollees who are obese	100.0	0.0	----
Percent of programs which permit individuals to extend/repeat the program	100.0	----	----
Percent of programs which include family members in the program	100.0	----	----

---

* n ranged from 3-5 facilities across items

Program elements. In this section of the questionnaire, three of the five Level III programs provided percentages that summed to either much less than or much greater than 100%. Although the responses might simply have been invalid, an alternative explanation is that they were the result of the respondents trying to describe an interactive, individualized program in structural terms more suited to Levels I and II. All Level III programs were modeled after the Alcoholics Anonymous 12-step program (some facilities included their compulsive overeaters with alcohol-dependent patients in the same therapy groups). Such programs, particularly in an inpatient setting, involve many hours of personal self-exploration, values clarification, and spiritual searching--elements that do not readily fit the predetermined categories presented in the survey. Moreover, "treatment time" is considered to occur twenty-four hours a day, encompassing all events within the residential milieu, including informal conversations in the hallway or private contemplation in the dorm. Thus, one program director might account for only 50% of program time with the survey elements options because the remaining 50% is spent in informal personal work (journal writing, assigned reading, private conversations) and daily routines (meals, laundry). Another might report that the single element "group discussion" occurs 100% of the time--in addition to time spent in the other program elements--because group discussion permeates virtually all program activities.

Because average percent of time could not be computed from these responses, we employed a simple rank-order procedure to estimate the relative importance of the designated program elements (and only those elements) to each other. Within each program, the elements were ranked according to the amount of time assigned to them in the survey (rank 1 = greatest percentage of time; rank 7 = smallest percentage of time); average rank-order scores were then computed across programs. Table 7 presents the overall ranking of the seven program elements.

Table 7

LEVEL III: Breakdown of time management: Rank order*

Rank	Mean rank-order score	Program element
1	1.9	Group discussion
2	2.1	Group exercise
3	4.2	Behavior modification
4	4.5	Addictive behaviors
5	4.6	Nutrition education
6	5.2	Stress management
7	5.5	Other

* n = 5 facilities

Program management. The types of measurements routinely obtained in the Level III programs are presented in Table 8. Only one facility did not obtain PRT scores at any time during the 6-week program. Although two facilities did not conduct psychological measurements such as self-esteem and self-efficacy at the very beginning or end of their programs, they indicated on their surveys that they measured them periodically during the 6-week treatment. Thus, all of the measures listed, with the exception of PRT scores, were obtained at least once by every facility.

All of the ARC/ARDs conducted follow-up evaluations by means of a mail-out questionnaire. Thirty-three percent performed follow-up at 3 months, 66% did so at 6 months, 50% at one year, and 50% at two years (most facilities contacted former patients more than once). However, the only measurement in Table 8 that was obtained at follow-up was PRT score (20%). Follow-up questionnaires addressed other issues not listed in the table, such as attendance at local Overeaters Anonymous meetings, command support, family support, and retention in the Navy.

Table 8

LEVEL III: Percent of programs conducting measurements at the beginning, end, or following the remedial program*

Item	% Responding "Yes"		
	Beginning	End	Follow-up
Height	100	80	0
Weight	100	100	0
Percent body fat	100	100	0
Blood pressure	100	40	0
Blood sugar	100	0	0
Blood lipids	100	20	0
Psychological measures	60	40	0
Behavioral measures	100	60	0
PRT scores	80	80	20

* n = 5 facilities

DISCUSSION

Results from the survey indicated that the majority of the Navy's remedial weight-management efforts occur at Levels I and III. Some of the CAACs (Level II) performed screening functions only; others offered what were essentially Level I (not Level II) programs; still others were interested in creating a program but did not have guidance for doing so (e.g., an instructor's manual). But the most frequent comment concerned lack of staffing or funding. Some CAACs had tried initiating a program for overeaters but found that their backlog of drug and alcohol clients became too great. Lacking sufficient resources for both programs, weight-management was dropped in favor of the higher-priority drug and alcohol program. Thus, obese personnel seeking assistance usually had only two options: the remedial exercise programs of Level I or the 6-week inpatient therapy of Level III. Further research might explore the potential for Level II programs to provide a cost-effective middle ground for treating obesity in the Navy.

Given the "out of hide" circumstances facing those CAAC directors and counselors who did manage to develop and conduct weight-management programs, it is not surprising that the

greatest diversity in program structure occurred in the Level II programs. Command-directed Level I programs were defined almost entirely by group exercise sessions conducted several times a week; they differed from one another primarily in group size. The ARC/ARD Level III programs were few in number and were essentially standardized by both the 6-week residential treatment situation and the spiritually-based 12-step treatment model. The Level II programs, not being similarly circumscribed, were therefore more variable than programs at the other two levels.

With regard to the reliance on physical exercise that characterizes many weight-management programs, one ARC noted that such a therapeutic approach with compulsive overeaters tended to further a "binge-and-purge" pathology. That facility deemphasized exercise as a treatment method, focusing instead on the psychological and emotional causes and consequences of uncontrolled eating. Whether their approach would fare better than one in which exercise is a principal component of the therapeutic regimen might be explored in another study.

This survey was intended to provide information regarding the number and types of remedial weight-management programs offered Navy-wide during 1991. The information obtained was used to form the basis of a prospective evaluation of program effectiveness at all three levels. Results from that prospective study, which is currently underway, are expected to be published near the end of 1992.

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APPENDICES

APPENDIX A

SURVEY OF COMMAND-DIRECTED REMEDIAL PROGRAMS FOR OVERFAT OR OBESE INDIVIDUALS

COMMAND-DIRECTED REMEDIAL PROGRAMS FOR OVERFAT OR OBESE INDIVIDUALS (LEVEL I)

In response to tasking from the Naval Military Personnel Command, the Naval Health Research Center is conducting a survey of command-directed remedial weight-control programs, which are provided for members whose percent body fat exceeds the standards set forth in OPNAV 6110.1D. Please complete the following brief questionnaire and return it to the Naval Health Research Center by ***30 April 91.*** *The survey should take no more than 10 or 15 minutes to complete. Your cooperation is greatly appreciated.*

Your name: _____ Phone number: _____

Position: _____

Mailing address (if different than label above): _____

_____

Navy Percent Body Fat Standards

	Males	Females
Acceptable	= less than 23%	less than 31%
Overfat	= 23% - 25%	31% - 35%
Obese	= 26% and higher	36% and higher

Does your UIC ordinarily conduct a remedial conditioning program for individuals who exceed the Navy's percent body fat standards (i.e., who are overfat or obese)? . . . . . ___YES ___NO

If NO: Name of command or program to which you refer overfat and/or obese individuals for remedial help with weight control:

_____

Please return this form, along with any remarks that you deem helpful, to the Naval Health Research Center (see last page). Thank you.

If YES: Please complete the rest of this questionnaire concerning the program offered. Circle your answers where appropriate and give your best estimate of the numbers requested (approximate or typical figures).

. . . . . .

1. Is the program for overfat/obese individuals the same program as for PRT failures (i.e., those who failed the run, situps, or pushups)? (circle one) . . . . . Yes 1 No 2

   If No, briefly explain the difference:

   _____

2. Please indicate whether the program is mandatory or voluntary for the following groups:

	Mandatory	Voluntary
a. overfat enlisted	1	2
b. overfat officers	1	2
c. obese enlisted	1	2
d. obese officers	1	2

	Yes	No
3. Is enrollment in the remedial program limited to overfat/obese members and PRT failures?	1	2

If enrollment is open to anyone, how do you let people know about the program?

_____

4. **Program description:** For the following items, please give your best estimate of the numbers requested (approximate or typical figures):

a. total number usually enrolled in your remedial program (whether for excess body fat, PRT failure, or other) _____

b. percent of program enrollees who are overfat/obese _____ %

c. average number of enrollees per group _____

d. number of concurrent groups in the program _____

e. number of sessions per week _____

f. number of minutes per session _____

g. length of complete remedial program (in months) _____

h. number of times a member may repeat the program _____

i. number of overfat/obese members who are referred to a Level II or Level III program (CAAC/ARC) per year _____

j. number of official command PRT tests per year _____

	Yes	No
5. Do members attend remedial sessions on their own time?	1	2
6. Do men and women attend separate groups?	1	2
7. Do officers and enlisted personnel attend separate groups?	1	2
8. Do overfat/obese members attend a separate group (separate from PRT failures who are within body fat standards)?	1	2
9. Is a record of attendance kept?	1	2

10. How are absences, no-shows, and dropouts handled? _____

_____

11. **Program elements:** Please indicate the approximate percent of time spent on each element during the course of the program:

a. group exercise sessions ..... _____%

b. nutrition education/dietary counseling ..... _____%

c. behavior modification techniques for eating behaviors ..... _____%

d. group discussion (including group support and self-esteem activities) ..... _____%

e. stress management ..... _____%

f. related behaviors (e.g., smoking, alcohol) ..... _____%

g. other ..... _____%
(if other, please describe):

_____

	Yes	No
12. Do you contact participants for follow-up after they have finished the program?	1	2

a. If so, when? _____

b. How (e.g., mail survey, PT record)? _____

c. What information is obtained? _____

_____

13. Please indicate which measurements are taken as part of the program AND WHEN THEY ARE TAKEN by circling as many of the following notations as apply: **B** = at the beginning of the program, **P** = periodically throughout the program, **E** = at the end of the program, **F** = follow-up after the program. If the measurement is not taken, leave it blank.

a. height	B	P	E	F
b. weight	B	P	E	F
c. percent body fat*	B	P	E	F

*How is body fat measured? (circle one) 1 body circumference (tape measure)
2 skinfold thickness (calipers)

d. blood pressure	B	P	E	F
e. blood sugar	B	P	E	F
f. blood lipids/cholesterol	B	P	E	F
g. psychological measures (e.g., self-esteem, self-efficacy, job satisfaction)	B	P	E	F
h. behavioral measures (e.g., eating habits, exercise, smoking, alcohol)	B	P	E	F
i. PT scores (run, situps, pushups)	B	P	E	F
j. other (specify) _____	B	P	E	F

(continued on back page)

	Yes	No
14. Have you modeled your program on some other well-known weight-reduction program, such as Weight Watchers or Overeaters Anonymous? (If **yes**, what program?): _____	1	2

15. Briefly describe the facilities and resources that you have available for your remedial conditioning program (e.g., classroom space, assistants, exercise facilities):

_____

_____

16. What is your anticipated PRT schedule for the coming year (approximate dates)? If this cannot be determined, please provide the best information available at this time:

_____

_____

17. If this questionnaire does not provide an accurate reflection of your remedial conditioning program, please add an explanatory note in the REMARKS section below. Also, **we would appreciate copies of any weight-control guidelines or handouts** that you use.

REMARKS:

_____

_____

_____

_____

_____

THANK YOU VERY MUCH FOR YOUR TIME AND ASSISTANCE!

If you have any questions, the NHRC point of contact is Linda Trent, AV: 553-8464 or COMM: (619) 553-8464. Please return this survey, along with any relevant enclosures, in the envelope provided, or mail to:

Naval Health Research Center
P.O. Box 85122
San Diego, CA 92186-5122

APPENDIX B

CAAC/ARC/ARD REMEDIAL WEIGHT-CONTROL PROGRAM SURVEY

	Level II		Level III	
4. Is there a waiting list for prospective enrollees?	Yes	No	Yes	No
a. number of people on waiting list	_____		_____	
b. typical length of time on waiting list	_____		_____	
5. Within each Level, how many classes/groups are usually conducted concurrently?	_____		_____	
6. Are groups closed or open-ended? (That is, do group members begin and end the program as a unit [closed], or are new members admitted and senior members graduated continually from an ongoing class [open-ended])?	_____		_____	
7. Approximately what percent of your program participants have been diagnosed as obese? (Men = ≥ 26%, Women = ≥ 36% bodyfat)	_____%		_____%	
8. Do men and women attend separate groups?	Yes	No	Yes	No
9. Do members attend sessions on TAD?	Yes	No	Yes	No
10. Is attendance taken or noted at sessions?	Yes	No	Yes	No
11. Are individuals permitted to extend their time in the program or repeat the program? (If yes, please explain): _____	Yes	No	Yes	No
12. Are family members included in the program?	Yes	No	Yes	No
13. Have you modeled your program on some other well-known weight-reduction program, such as Weight Watchers or Overeaters Anonymous? (If yes, what program?): _____	Yes	No	Yes	No
14. **Program elements:** Please indicate the approximate percent of time spent on each element during the course of the program:				
a. group exercise sessions	_____%		_____%	
b. nutrition education/dietary counseling	_____%		_____%	
c. behavior modification techniques for eating behaviors	_____%		_____%	
d. group discussion (including group support and self-esteem activities)	_____%		_____%	
e. stress management	_____%		_____%	
f. related addictive behaviors (e.g., smoking, alcohol)	_____%		_____%	
g. other (e.g., field trips, cooking classes)	_____%		_____%	
(if other, please describe): _____				
15. Do you contact participants after they have finished the program?	Yes	No	Yes	No
a. If so, when?	_____		_____	
b. How? (e.g., telephone, clinic appointment, questionnaire)	_____		_____	
c. What information is obtained? _____				

16. Please indicate which measurements are taken as part of the program AND WHEN THEY ARE TAKEN by circling as many of the following notations as apply: B = at the beginning of the program, P = periodically throughout the program, E = at the end of the program, F = follow-up after the program. If the measurement is not taken, leave it blank.

	Level II	Level III
a. height	B P E F	B P E F
b. weight	B P E F	B P E F
c. percent body fat*	B P E F	B P E F
*How is body fat measured? _____		
d. blood pressure	B P E F	B P E F
e. blood sugar	B P E F	B P E F
f. blood lipids/cholesterol	B P E F	B P E F
g. psychological measures (e.g., self-esteem, self-efficacy, job satisfaction)	B P E F	B P E F
h. behavioral measures (e.g., eating habits, exercise, smoking, alcohol)	B P E F	B P E F
i. PT scores (run, situps, pushups)	B P E F	B P E F

17. Briefly describe the facilities and resources you have available for your weight-control programs (e.g., classroom space, number of counselors, funding):

_____

_____

_____

If you have any written guidelines, instruction, or an instructor's manual for your program, **please send a copy to us in the enclosed brown envelope,** along with this questionnaire. Also, if there are any standard handouts used in your classes or sessions, we would appreciate copies of those as well.

REMARKS:

THANK YOU VERY MUCH FOR YOUR TIME AND ASSISTANCE!

If you have any questions, the NHRC point of contact is Linda Trent, AV: 553-8464, or COMM: (619) 553-8464.
Please return this survey in the envelope provided, or mail to:

Naval Health Research Center
P.O. Box 85122
San Diego, CA 92186-5122

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Naval Health Research Center
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13. ABSTRACT *(Maximum 200 words)*

The purpose of this study was to gain descriptive information about the Navy's diverse, 3-tiered obesity treatment programs. Questionnaires concerning enrollment policies and procedures, and program demography, elements, and management were mailed to a stratified random sample of Level I (command-directed) programs, and to all Level II (counseling centers) and Level III (inpatient) treatment facilities. Average program enrollment was about 10-15 participants per treatment group at all three levels. Level I programs relied primarily on group exercise to treat obesity; most Level II and III programs were modeled on Overeaters Anonymous and devoted substantial amounts of time to group discussion, behavior modification, and nutrition education. Although Level I participants included physical fitness test (PRT) failures as well as overeaters, nearly 63% of the enrollees were overfat or obese, and about 6% of those were referred to a Level II or III program. Lack of funding or staffing prevented many Level II facilities from conducting a weight-management program, however, leaving basically two options for obese individuals seeking help: remedial conditioning exercise routines at Level I, or six weeks of inpatient therapy at Level III. Further research might explore the potential for Level II to provide a cost-effective middle ground for obesity treatment.

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